

2019 Thorne Bay Water Quality Report

PWSID# AK2120216 Consumer

Confidence Report

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 4 of those contaminants and found only 2 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

The City of Thorne Bay gets its drinking water from a source water intake located in Water Lake.

Source water assessment and its availability

A source water assessment for the City of Thorne Bay surface water source was completed in 2003 and the results of the assessment are:

The Wellhead/Surface Intake Susceptibility is Low.

The Aquifer Susceptibility is N/A.

The overall vulnerability to potential contaminants is:

Bacteria and Viruses is High;

Nitrates/Nitrites is High;

Volatile Organic Chemicals is Very High;

Inorganics/Heavy Metals is Very High;

Synthetic Organic Chemicals is Medium;

Other Organic Chemicals is Medium.

For further information regarding this source water assessment please contact the local water system operator, or the Alaska Resources Library & Information Services (ARLIS) located at 3211 Providence Drive, Room 111, Anchorage, Alaska 99508; phone number 907-272-7547. Or you may call Chris Miller at the ADEC Drinking Water Protection Program at 907-269-4791, or 907-269-7549. You may also access the public source water executive summary data at the ADEC website:
<http://dec.alaska.gov/eh/dw/dwp/complete.aspx>.

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity: microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order

to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

Residents are encouraged to participate in decisions that affect drinking water quality and bring any concerns to local City Council meetings. If you have questions about this report please contact the Thorne Bay Utility at the contact information at the end of this report.

Description of Water Treatment Process:

Your water is treated in a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc," which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through sand, gravel, charcoal or other filters that remove even smaller particles. A small amount of chlorine or other disinfection method is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

Waivers:

ADEC has granted us a monitoring waiver for Synthetic Organic Compounds (SOC). We not required to monitor during the waived compliance period of 2017-2019. We plan to apply for waiver renewal for 2020-2022 before September 31, 2021.

Monitoring and reporting of compliance data violations:

We failed to take five lead and copper samples in 2019. The health effects are unknown since the samples were missed. This report has listed our results from 2018 for reporting purposes. We plan to take lead and copper samples in 2020 to return to compliance.

We failed to take the third quarter TTHM and HAA5 samples in 2019. We returned to compliance in the fourth quarter after we took samples. We plan to monitor for TTHM

and HAA5 all four quarters in 2020.

We failed to take Volatile Organic Chemical (VOC) samples in 2019. The health effects are unknown since we missed the samples. In 2018 samples did not show any VOC's to report. We plan to take VOC's in 2020 to return to compliance.

Record keeping violations:

In July of 2019 we failed to submit our monthly operator report to the ADEC. We returned to compliance in August of 2019 after we submitted the August monthly operator report. Thorne Bay intends on submitting the monthly operator report on time in 2020.

Additional Information for Lead:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Thorne Bay is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (ppb)	NA	60	208.766	204	215.3	2019	Yes	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	179	136	205	2019	Yes	By-product of drinking water disinfection

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Copper - action level at consumer taps (ppm)	1.3	1.3	.1345	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	1.81	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Violations and Exceedances

Haloacetic Acids (HAA5)

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. Some people who drink water containing Haloacetic Acids (HAA5) in excess of the MCL over many years may have an increased risk of getting cancer. Thorne Bay has over the years experienced high levels of HAA5s since we began monitoring in 2004 when regulatory changes took effect. The violations took place in three of four quarters that we sampled of 2019 (January of 2019 - December of 2019). Seasonal variations of water quality (naturally-occurring organic materials) at Water Lake contribute to the formation of these Disinfection Byproducts in our water distribution system. The City utility staff have increased maintenance efforts (decreasing Chlorine usage, routine hydrant flushing distribute on line purging, valve exercising, etc.) within our distribution system to remove organic material which contributes to HAA5 formation. Although the HAA5 levels have been reduced, they are still high and the City will continue working to reduce their levels even further.

We are currently upgrading our water treatment plant in order to come into compliance with our HAA5 and TTHM. We are operating under a Compliance Order By Consent (COBC) with a completion deadline of 6/2020.

TTHMs [Total Trihalomethanes]

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Some people who drink water containing Trihalomethanes (TTHM) in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Thorne Bay has over the years experienced high levels of TTHM since we began monitoring in 2004 when regulatory changes took effect. These violations took place in all quarters that we sampled of 2019 (January of

Violations and Exceedances
<p>2019 - December of 2019). Seasonal variations of water quality (naturally-occurring organic materials) at Water Lake contribute to the formation of these Disinfection Byproducts in our water distribution system. The City utility staff have increased maintenance efforts (decreasing Chlorine usage, routine hydrant flushing distribute on line purging, valve exercising, etc.) within our distribution system to remove organic material which contributes to TTHM formation.</p> <p>Although the TTHM levels have been reduced, they are still high and the City will continue working to reduce their levels even further. Recently, we have met with DEC officials to come up with ideas to resolve this issue.</p> <p>We are currently upgrading our water treatment plant in order to come into compliance with our HAA5 and TTHM. We are operating under a Compliance Order By Consent (COBC) with a completion deadline of 6/2020.</p>

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	Definition
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Important Drinking Water Definitions	
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

TT Violation	Explanation	Length	Health Effects Language	Explanation and Comment
Surface water treatment rule filtration and disinfection violations	We exceeded the MCL for HAA5 in three out of four quarters and the MCL for TTHM in three out of fourth quarters of 2019. We failed to collect a TTHM and HAA5 sample the third quarter.	We exceeded the MCL for TTHM in three out of four quarters in 2019. The first, second, and fourth quarters of 2019 samples were collected. We exceeded the MCL for TTHM in three out of four quarters, the first, second and fourth quarters of 2019.	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	We are currently upgrading our water treatment plant in order to come into compliance with our HAA5 and TTHM. We are operating under a Compliance Order By Consent (COBC) with a completion deadline of 6/3020.

For more information please contact:

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